

## Fire Safety Survey Explanation Sheet

Please note: While there are safety systems (smoke detectors, sprinklers, etc.) in place in most Western buildings, including resident halls, to notify people and mitigate fires, it is best not to have a fire start in the first place. These systems can fail or be overpowered by a fire under the wrong circumstances. Underwriter's Laboratories has done an experiment with various fire fuels and determined today's furnishings burn much faster, hotter, and with more toxic smoke than in the past. Prevention is the best and safest method.

Below you will find what is looked for during the surveys, along with an explanation of why they it is important to check. The code reference is also included for those that wish to do additional research.

	<b>Item and explanation</b>	<b>Code Reference*</b>
	<p><b>Floor plans conspicuously located at main entrance.</b> The fire department and other emergency responders use floor plans to assist them in finding specific locations in the building.</p>	IFC 404
	<p><b>Combustible materials (paper, books, plastics) are away from electrical devices, heaters, scientific equipment.</b> The University discourages the use of space heaters, not only due to energy considerations, but also from a fire prevention standpoint. While codes do allow for limited use of space heaters, it requires a minimum of 3 feet clearance from combustibles.</p>	IFC 315
	<p><b>Storage in room is arranged in an orderly manner to provide for emergency exiting and fire department access.</b> Poor housekeeping can result in a fire hazard by what is called combustible loading. Storage of excess materials can cause a number of problems, including access for all persons and safe exiting in case of an emergency. Stacks need to be stable. Departments need to routinely evaluate what is needed and what should be surplus or disposed of.</p>	IFC 315
	<p><b>Fire department access roads, hydrants, and fire department connections are visible and unobstructed.</b> All areas of campus must be able to be accessed for firefighting purposes. Fire hydrants and fire department connections (where the fire department ties into the sprinkler system) must be easily visible and readily accessible. If these items are blocked it could cause a delay in firefighting operations, resulting in additional damage or loss of life. Proper signage is required for crews to determine which system they are pumping into.</p>	IFC 503
	<p><b>Ceiling tiles in place and hatches closed</b> Ceiling tiles serve to prevent fire and smoke from traveling through the ceiling plenum to other parts of the building. Smoke detectors and sprinklers are placed at the highest point in a space where smoke and heat buildup earliest. When a ceiling tile or roof hatch is open, the smoke and heat</p>	NFPA 72

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	can escape up through them and not activate the smoke detector or sprinkle as early on.	
	<b>Equipment with motors, heaters, or other high amperage needs are plugged directly into wall outlet.</b> High amperage equipment (drawing more than 1400 watts) should be plugged directly into a wall or floor receptacle rather than a surge suppressor or power strip. Occupants can contact Facilities Management for assistance.	IFC 605
	<b>All electric cords are in good condition.</b> Frayed or damaged cords can overheat or short, causing a fire. Replace or contact Facilities Management to have damaged cord repaired properly.	IFC 605
	<b>Check for permanent extension cord use. Extensions cords are only to be used temporarily (up to 90 days).</b> Extension cords are designed for temporary, portable appliance use only. They are not designed for permanent use, or for powering larger equipment or appliances. All non-temporary equipment must be plugged directly into a building outlet. Where possible install new electrical outlets to eliminate the use of extension cords.	IFC 605
	<b>Extension cords and power strips are plugged directly into an outlet.</b> Please ensure any extension cords are used only for temporary, single appliance use and are plugged directly into a building outlet. Power strips contain circuit breakers that will interrupt the flow of electricity if a short is detected, so they are allowed for longer term use.	IFC 605
	<b>Extension cords and power strips are not "daisy chained" to each other.</b> Using multiple cords connected in series results in higher resistance, generating heat and leading to decreased cord life or overheating and fire.	IFC 605
	<b>Extension cords and power strips are appropriate for the power load.</b> Conductors in each extension cord are sized for the current carrying capacity of the wire, and wire resistance increases with each linear foot of cord.	IFC 605
	<b>Extension cords with 3-wire (3-pronged) are used for appliances with 3-prong plugs.</b> In order to ensure that the appliance is grounded as it is designed, any extension cord, also must be grounded.	IFC 605
	<b>No open junction boxes or exposed wiring.</b> Exposed electrical wiring provides a risk of shock, and also exposes the wiring to risk of damage. Providing covers helps protect against these hazards.	IFC 605

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	<p><b>GFCI's are used around water.</b></p> <p>Appliances and extension cords used outdoors or in wet locations must be ground fault circuit interrupt (GFCI) protected. These will trip the circuit and stop the flow of electricity if it detects an incorrect flow (to ground instead of hot to neutral).</p>	<p>NEC 210.8 (A)</p>
	<p><b>At least 3 feet of clearance in front of all electrical panels.</b></p> <p>You must maintain 3 feet of clearance in front of electrical panels. This not only allows for easy access should the panel require service, but also prevents combustible materials from being ignited if the circuits in the panel overheat or arc.</p>	<p>IFC 605</p>
	<p><b>All electrical panels have a panel cover/door on them.</b></p> <p>Covers on electrical panels are provided to protect occupants against contact with live electrical circuits, shields them from the hazards of electrical arcing and protect the building from fires caused by electrical sparks. To be effective, these panel doors must be closed during normal operation. This provides a level of protection in the event of a fire or electrical emergency.</p>	<p>IFC 605</p>
	<p><b>Corridors, stairwells and exits are free of obstructions</b></p> <p>You must keep exit corridors clear and unobstructed. The ability to safely evacuate a building is a key element in any emergency planning. Storage is prohibited in exit stairwells so that these areas remain clear with limited chance of fire burning in them. Furniture placement in lobbies and the main concourse is strictly managed.</p>	<p>IFC 315</p>
	<p><b>Exit signs are illuminated, in good repair, and faceplate indicates the correct direction of exiting.</b></p> <p>Exit signage is the quickest way to determine which direction to head during an emergency, especially for those that might be unfamiliar with a building or area, or if the usual path of travel is blocked. Exit signage must be illuminated at all times, including when the building isn't occupied. Exit signage is required at all designated egress discharge doors and paths leading to those doors. This signage must have battery or emergency generator backup power. Glow-In-The-Dark exit signage may be approved in some locations.</p>	<p>IFC 1006</p>
	<p><b>Fire doors are not being propped open and working properly.</b></p> <p>Fire doors are an integral part of the building construction designed to stop or slow the spread of fire and smoke and must never be propped open or blocked by furniture, etc. It is especially critical to keep smoke from entering the exit passageway and making exiting more difficult due to smoke inhalation and poor visibility. With decades of use or due to building pressurization these doors may not completely close or won't latch, thereby negating their effectiveness. If you</p>	<p>IFC 7003</p>

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	<p>prefer certain fire doors to be normally kept open, they can be tied to the fire alarm system so that they close automatically when the alarm is activated. Please contact Facilities Management for installation of this system or for repairs to doors not closing properly.</p>	
	<p><b>Fire extinguishers are unobstructed and accessible.</b>          Portable fire extinguishers are effective on small fires, but these can grow rapidly to the point where it is unsafe to try to fight the fire. When even seconds count, fire extinguishers must be readily available. Fire extinguishers must be conspicuously located along normal paths of travel and may not be obstructed or obscured from view. The fire extinguisher must be secured on a hanger, on a bracket, or in a cabinet/wall recess. We have three types of extinguishers on campus: water, CO<sub>2</sub> and ABC-multi-purpose extinguishers. Please notify Facilities Management if you notice a missing or tampered extinguisher, or you notice the gauge needle pointing in the red or discharged area. Please contact EHS-Fire Safety if you're interested in fire extinguisher training.</p>	<p>IFC 906</p>
	<p><b>Items are stored at least 18" below level of sprinklers (36" fir storage piled over 12' high).</b>          Rooms that are equipped with sprinklers must have an 18-inch (46 cm) clearance between the bottom of the sprinkler head and the stored materials. Materials stored too close to the sprinkler head will prevent heat from reaching the sprinkler's fusible link and prevent water from reaching the seat of the fire once the sprinklers have been activated.</p>	<p>NFPA 13, section 8</p>
	<p><b>Hazardous material/chemical storage cabinets are properly labeled and in good condition.</b>          If your cabinets are not labeled, or if the labels are incorrect or misleading, it could lead to confusion in an emergency. If a cabinet has lost internal integrity due to holes being drilled, rust spots, etc., it cannot provide adequate safeguards to protect the materials within from hazards outside of the cabinet or vice versa. All cabinets shall be UL listed or constructed according to IFC 5703.2.1.1 and all flammable cabinets must be self-closing.</p>	<p>IFC 5003</p>
	<p><b>Hazardous materials/chemical containers are stored properly and clearly labeled.</b>          Even if those working with a chemical are aware of what a material is, others, such as visitors and emergency responders, may not be. Proper labeling provides quick identification of the material and its hazards in an emergency. Segregate and store chemicals by hazard class (e.g. flammables, acids, bases, etc.) so that incompatible materials cannot react with each other.          Hazardous chemicals are regulated for general storage requirements and permissible quantities. Hazardous</p>	<p>IFC 5003, 5703, 5704</p>

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	<p>chemicals stored outside of cabinets or in large quantities present a greater risk to the building and its occupants, particularly flammable liquids.</p> <p>Know where spill cleanup supplies are kept. Call Environmental Health and Safety at 3064 to report all spills and clean-up assistance.</p>	
	<p><b>Compressed gas cylinders are properly secured and labeled.</b></p> <p>It is critical to keep compressed gas cylinders secured from falling. In many cases, falling cylinders result in damage to the valve assembly which can result in a catastrophic failure of the cylinder. While a single strap will meet code, best practice suggests restraints at two locations on the cylinder, one at 1/3 cylinder height, and another at 2/3 cylinder height. Even if all employees within the work area are familiar with the cylinders, contents must be labeled, with labeled facing out, so that they can easily be recognized in the event of an emergency response. Some gases react with each other, resulting in fires or toxic compounds. Because of this, incompatible cylinders in storage must be separated by a distance of at least 20 feet, by a non-combustible partition, or by gas cabinets.</p>	<p>IFC 5303</p>
	<p><b>Shelves holding chemicals or other hazardous items have lips or other means to prevent items from falling.</b></p> <p>It is critical to keep hazardous chemicals from falling off shelving during an earthquake or other event that may cause a container from sliding off. Lips or doors help prevent this type of spill.</p>	<p>IFC 5704</p>
	<p><b>Shelving storage over 6' high is seismically braced and anchored.</b></p> <p>Shelving for storage of items needs to be prevented from falling over during a seismic event. If items are placed on shelving above 6', the shelving needs to be bolted to the floor or adequately seismically braced.</p>	<p>IBC 1613</p>

\*IFC-International Fire Code

IBC-International Building Code

NFPA-National Fire Protection Association